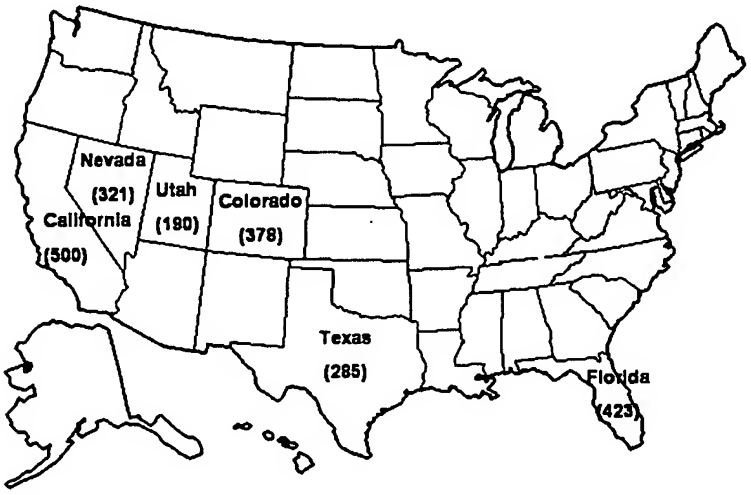
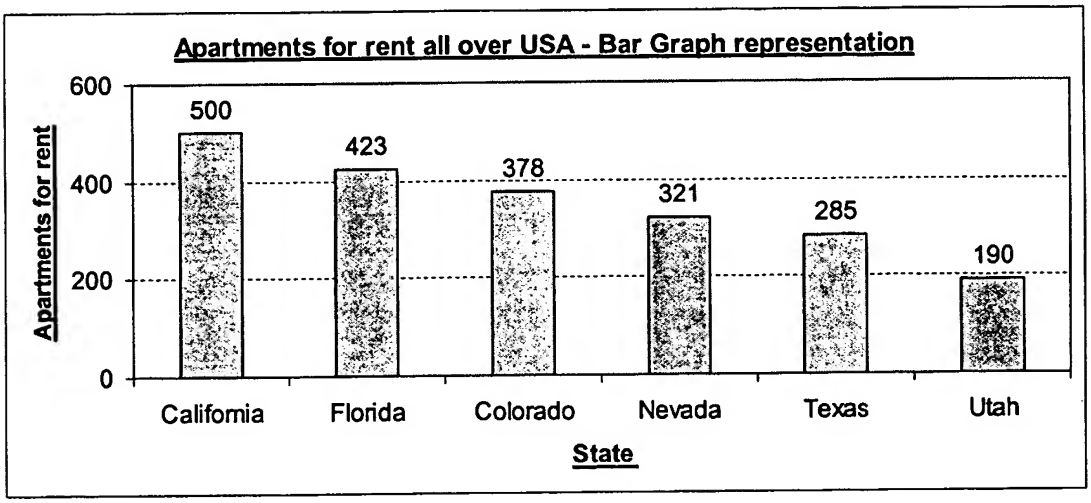
## Apartments for rent all over USA – MAP representation




## Apartments for rent all over USA – Summary Table representation

| State | Apartments for rent |
|---|---|
| California | 500 |
| Florida | 423 |
| Colorado | 378 |
| Nevada | 321 |
| Texas | 285 |
| Utah | 190 |



**Figure-1**

## Apartments for rent in Palo-Alto – Data Table

| | | Record # | Address | Bed Rooms | Rental Period | Owner Phone Number | Apartment Picture |
|---|---|---|---|---|---|---|---|
| ☐ | | 1 | 14 G. Washington St. | 3 | 6 months | 456-555-6654 | None |
| ☐ | | 2 | 25 G. W. Bush St. | 4 | 24 months | 456-555-6546 | www.abc.com |
| ☐ | | 3 | 133 Roosevelt St. | 2 | 12 months | 845-555-1313 | www.abcd.com |
| ☐ | | 4 | 522 Alamida St. | 3 | 12 months | 235-555-3651 | www.abcd.com |
| ☐ | | 5 | 223 Birmingham St. | 3 | 12 months | 933-555-5651 | www.abcde.com |

**Figure-2**

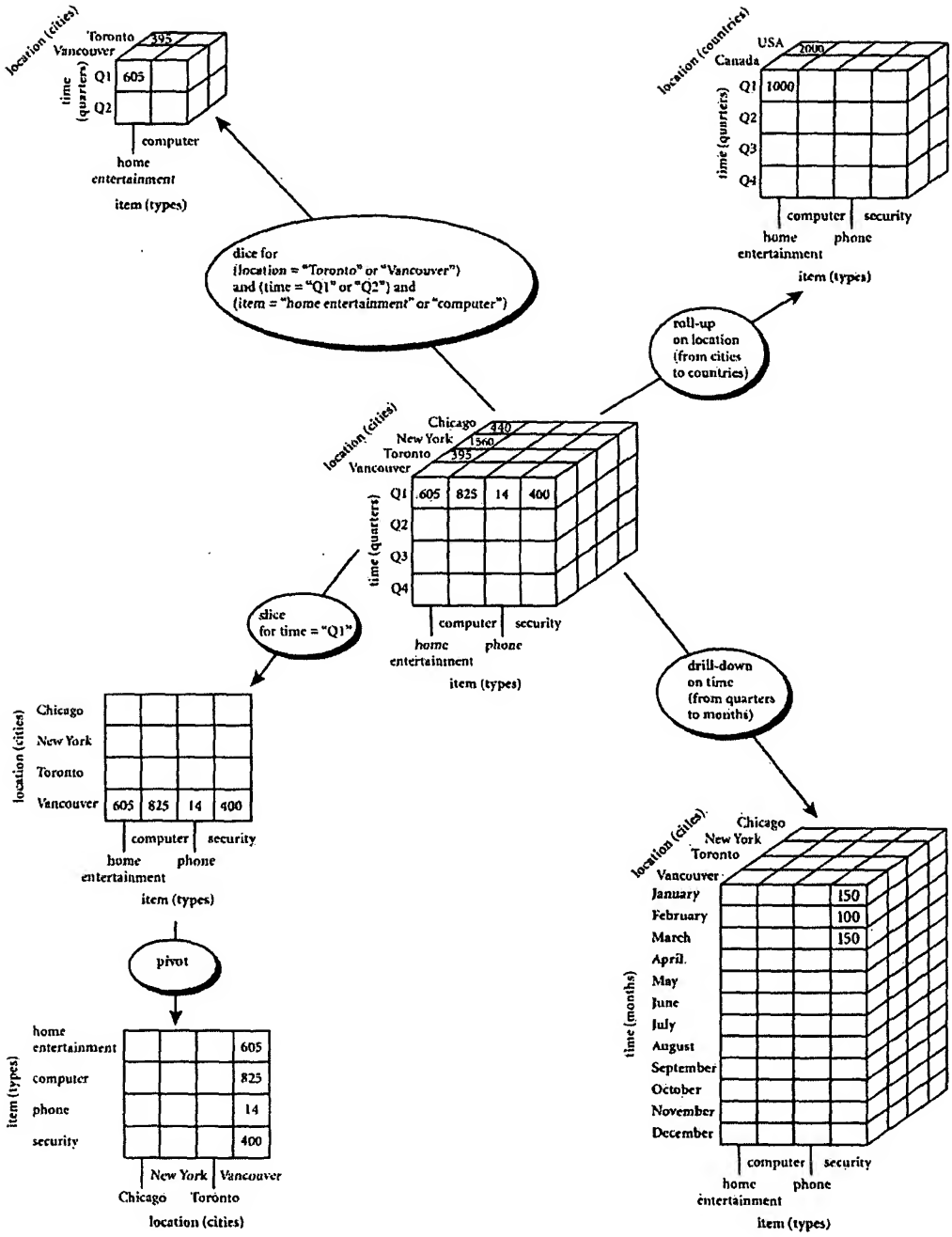
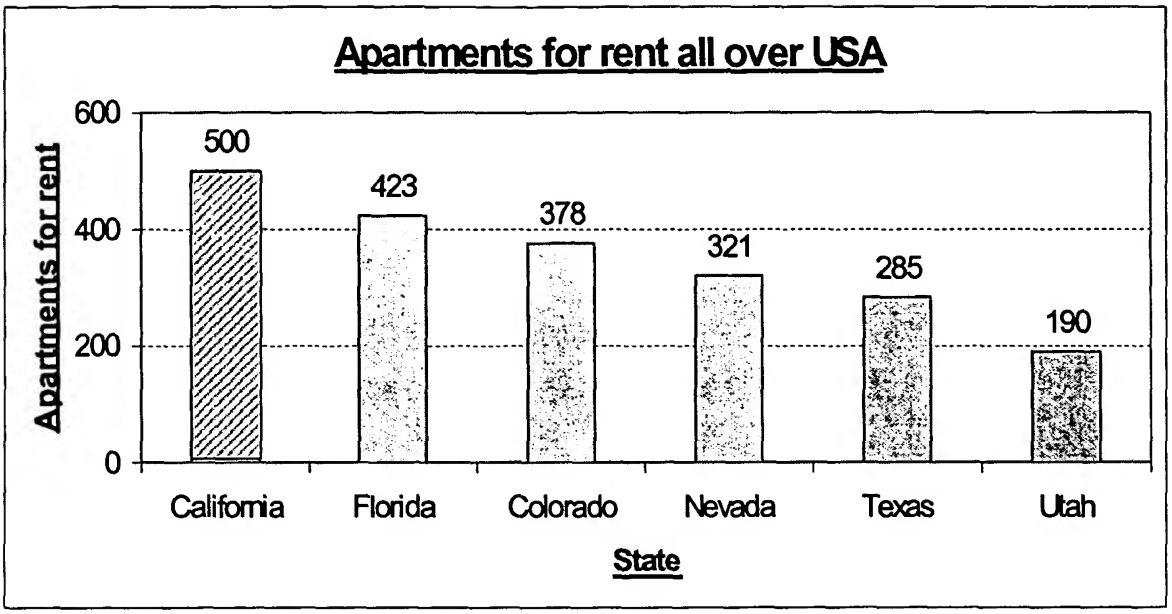

location (cities)
Toronto
Vancouver
395
time (quarters)
Q1
605
Q2
computer
home entertainment
item (types)
dice for
(location = "Toronto" or "Vancouver")
and (time = "Q1" or "Q2") and
(item = "home entertainment" or "computer")
location (countries)
USA
2000
Canada
Q1
1000
Q2
Q3
Q4
time (quarters)
computer
security
home entertainment
phone
item (types)
roll-up
on location
(from cities
to countries)
location (cities)
Chicago
440
New York
1560
Toronto
395
Vancouver
Q1
605
825
14
400
Q2
Q3
Q4
time (quarters)
computer
security
home entertainment
phone
item (types)
slice
for time = "Q1"
drill-down
on time
(from quarters
to months)
location (cities)
Chicago
New York
Toronto
Vancouver
605
825
14
400
computer
security
home entertainment
phone
item (types)
pivot
home entertainment
computer
phone
security
605
825
14
400
item (types)
New York
Vancouver
Chicago
Toronto
location (cities)
location (cities)
Chicago
New York
Toronto
Vancouver
January
150
February
100
March
150
April
May
June
July
August
September
October
November
December
time (months)
computer
security
home entertainment
phone
item (types)



**Figure-3**


Apartments for rent all over USA
Apartments for rent
600
400
200
0
500
423
378
321
285
190
California
Florida
Colorado
Nevada
Texas
Utah
State

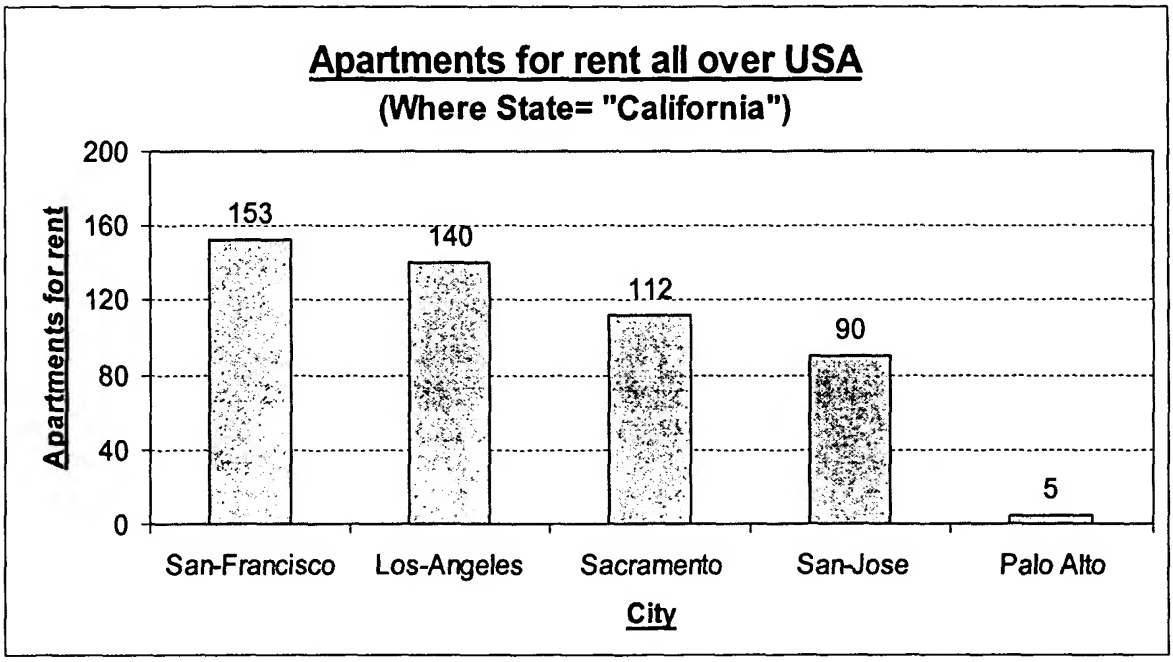

Apartments for rent all over USA
(Where State= "California")
Apartments for rent
200
160
120
80
40
0
153
140
112
90
5
San-Francisco
Los-Angeles
Sacramento
San-Jose
Palo Alto
City

**Figure-4**

Apartments for rent all over USA

| State | Apartments for rent |
|---|---|
| California | 500 |
| Florida | 423 |
| Colorado | 378 |
| Nevada | 321 |
| Texas | 285 |
| Utah | 190 |

Apartments for rent all over USA
(Where State= "California")

| City | Apartments for rent |
|---|---|
| San Francisco | 153 |
| Los Angeles | 140 |
| Sacramento | 112 |
| San Jose | 90 |
| Palo Alto | 5 |

**Figure-5**

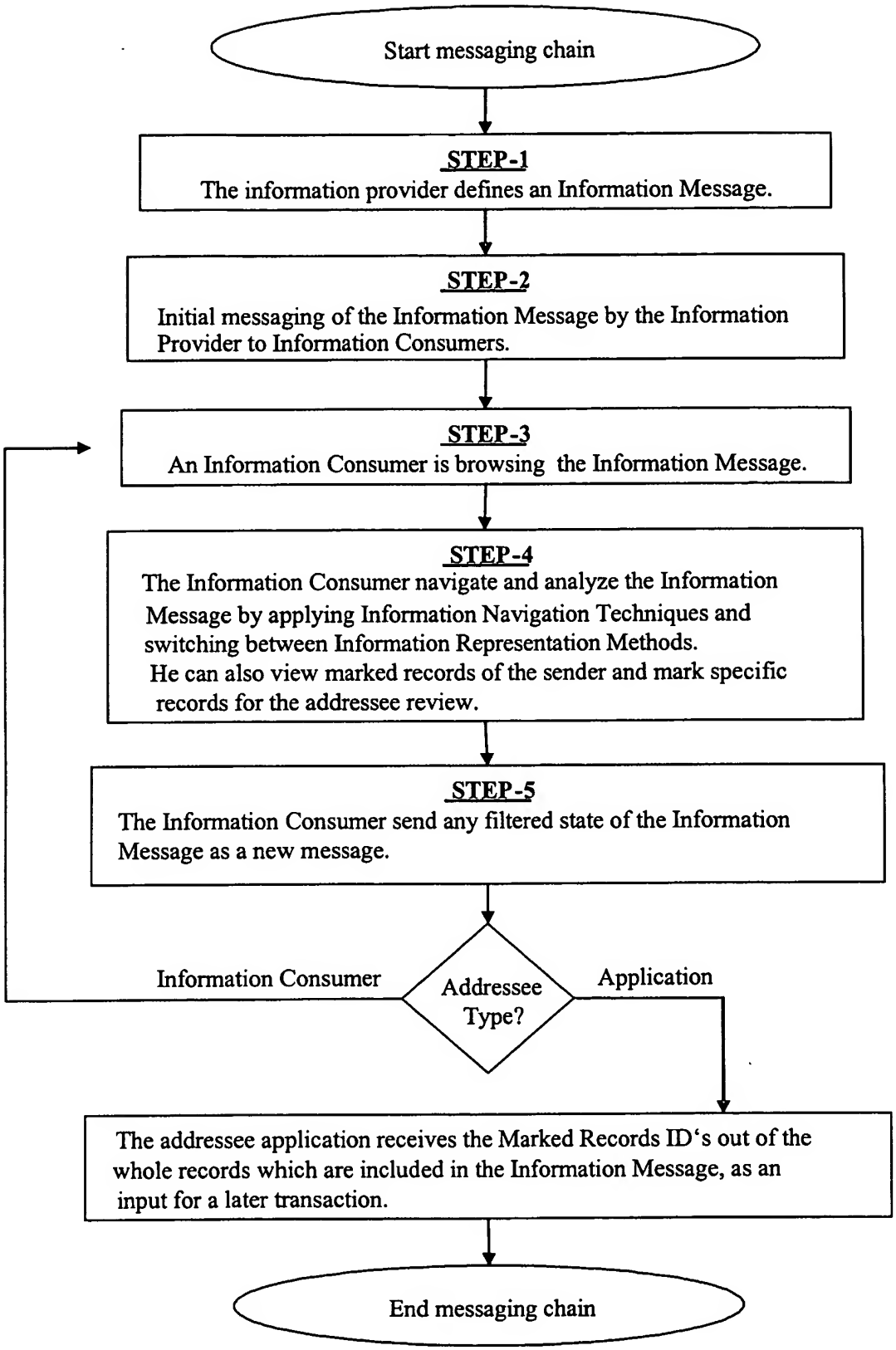

Start messaging chain
STEP-1
The information provider defines an Information Message.
STEP-2
Initial messaging of the Information Message by the Information Provider to Information Consumers.
STEP-3
An Information Consumer is browsing the Information Message.
STEP-4
The Information Consumer navigate and analyze the Information Message by applying Information Navigation Techniques and switching between Information Representation Methods.
He can also view marked records of the sender and mark specific records for the addressee review.
STEP-5
The Information Consumer send any filtered state of the Information Message as a new message.
Information Consumer
Addressee Type?
Application
The addressee application receives the Marked Records ID's out of the whole records which are included in the Information Message, as an input for a later transaction.
End messaging chain



**Figure-6**

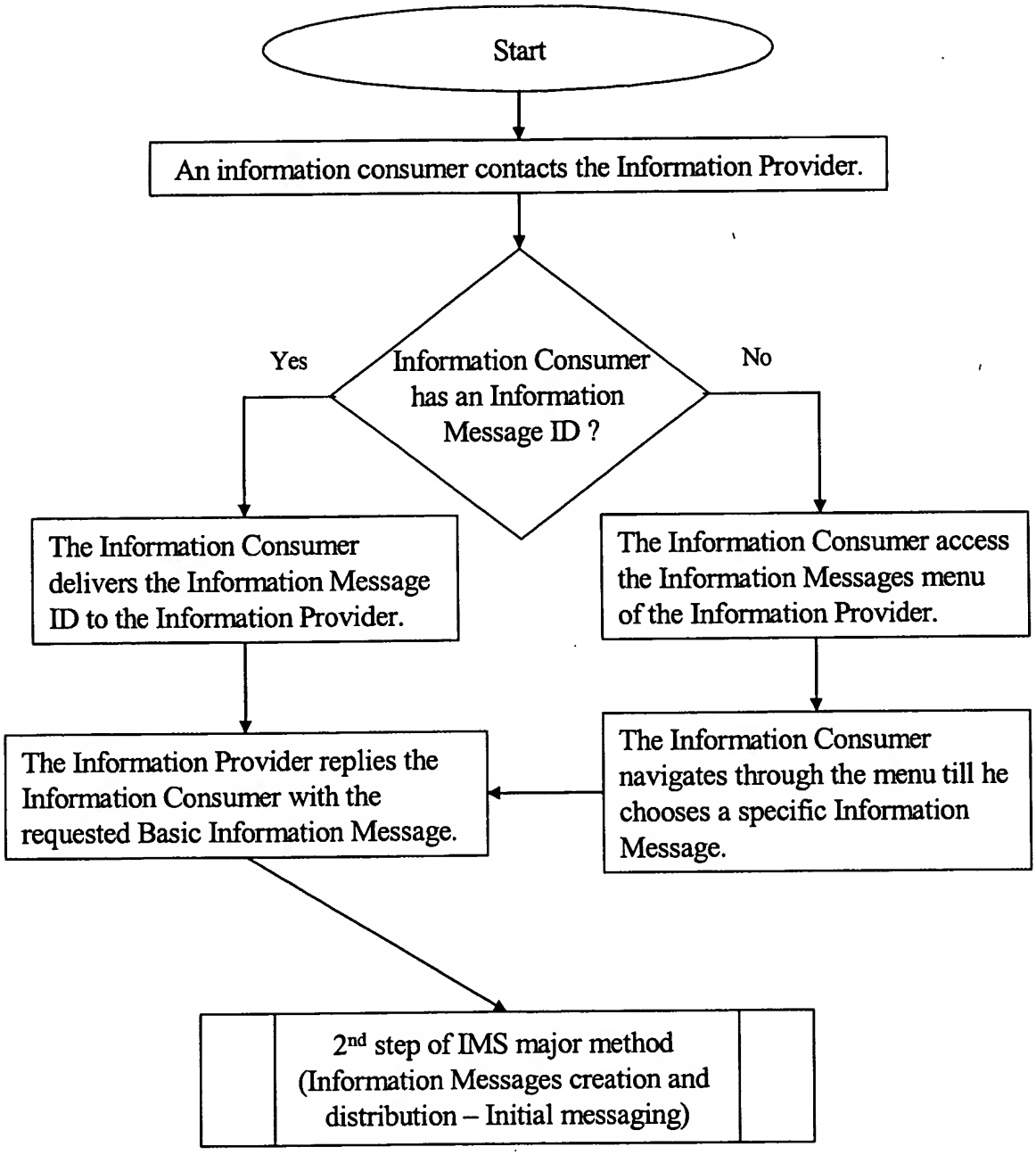

Start
An information consumer contacts the Information Provider.
Information Consumer has an Information Message ID ?
Yes
No
The Information Consumer delivers the Information Message ID to the Information Provider.
The Information Consumer access the Information Messages menu of the Information Provider.
The Information Provider replies the Information Consumer with the requested Basic Information Message.
The Information Consumer navigates through the menu till he chooses a specific Information Message.
2nd step of IMS major method (Information Messages creation and distribution – Initial messaging)



**Figure-7**

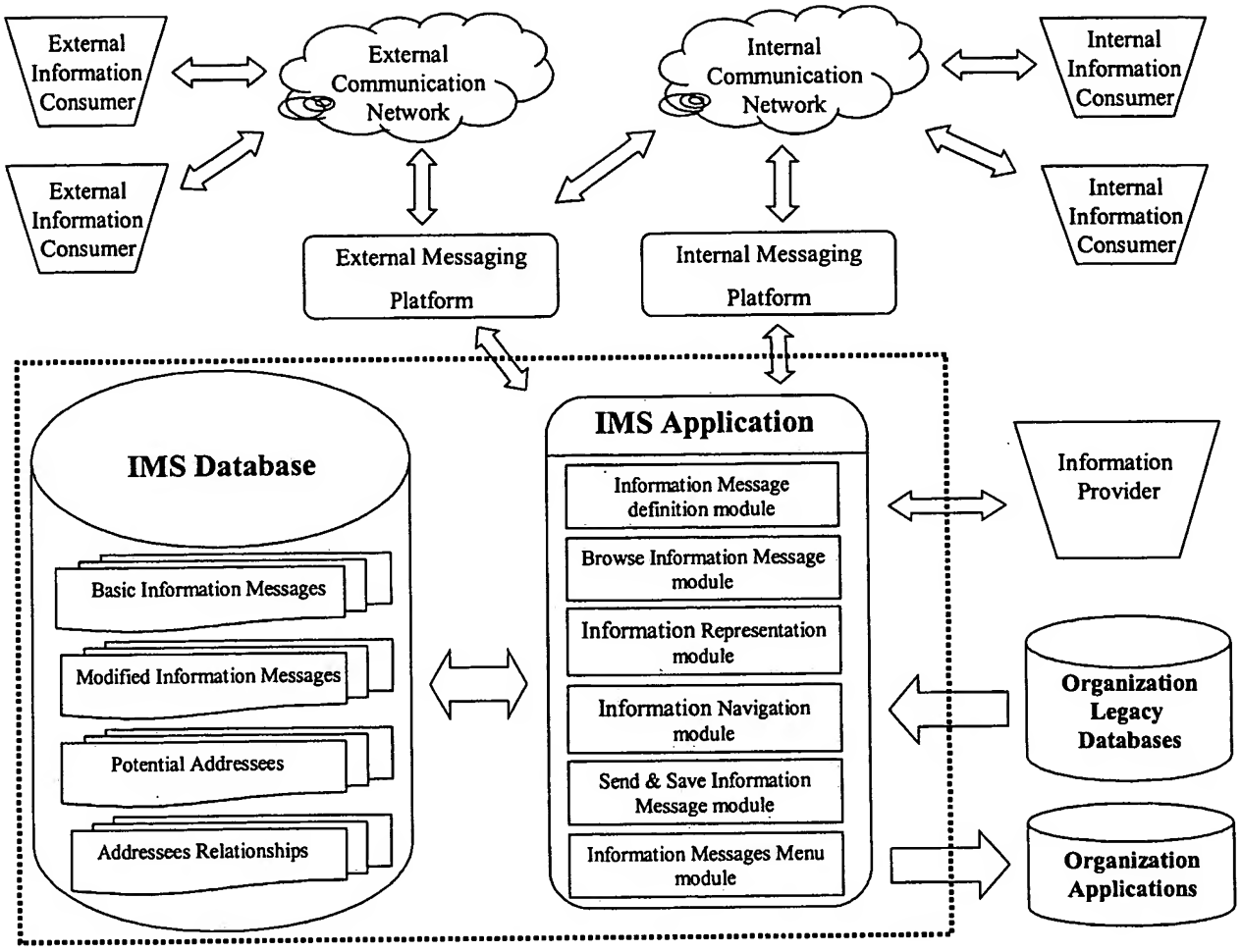

External Information Consumer
External Information Consumer
External Communication Network
Internal Communication Network
Internal Information Consumer
Internal Information Consumer
External Messaging Platform
Internal Messaging Platform
IMS Database
Basic Information Messages
Modified Information Messages
Potential Addressees
Addressees Relationships
IMS Application
Information Message definition module
Browse Information Message module
Information Representation module
Information Navigation module
Send & Save Information Message module
Information Messages Menu module
Information Provider
Organization Legacy Databases
Organization Applications

**Figure-8**

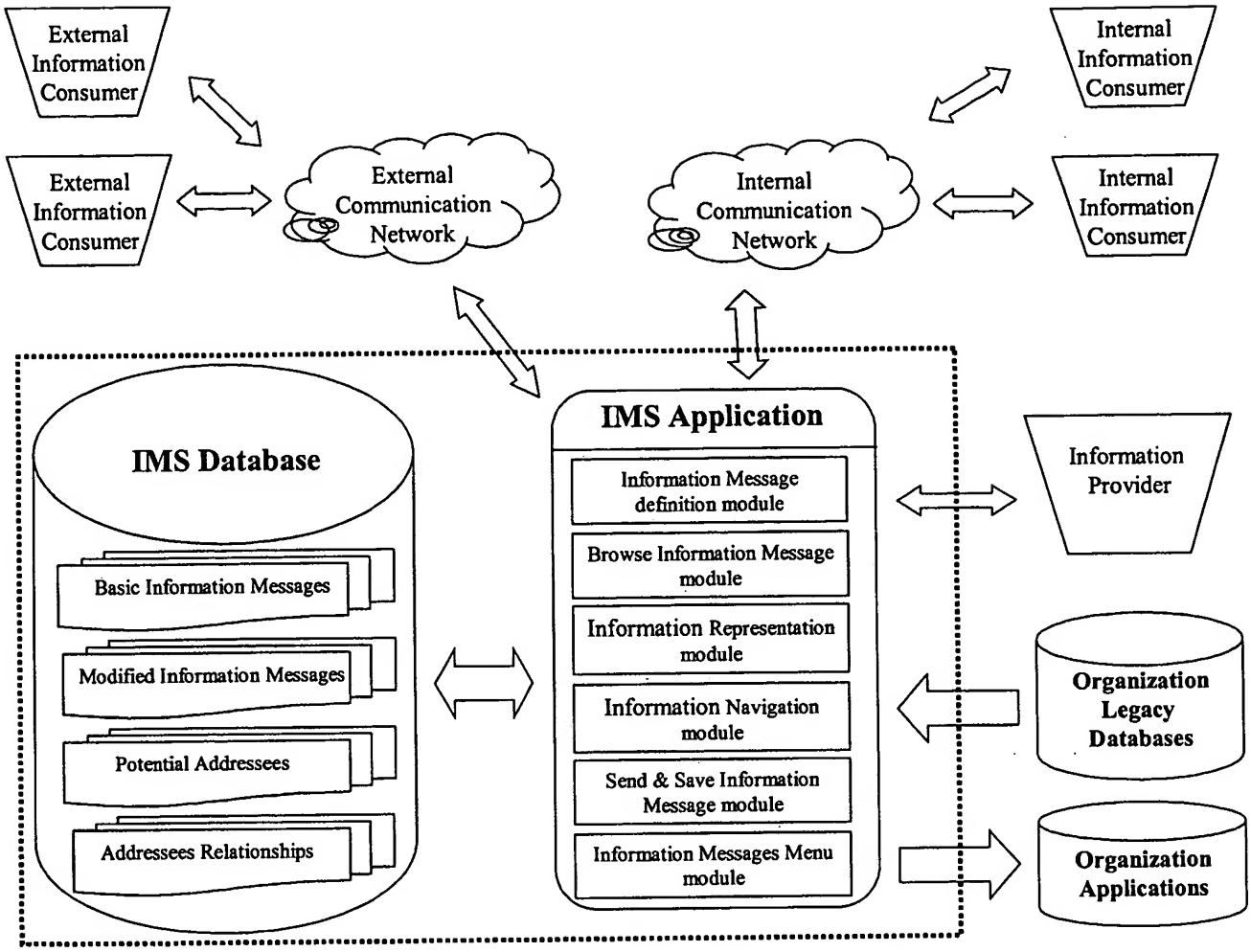

External Information Consumer
External Information Consumer
External Communication Network
Internal Information Consumer
Internal Information Consumer
Internal Communication Network
IMS Database
Basic Information Messages
Modified Information Messages
Potential Addressees
Addressees Relationships
IMS Application
Information Message definition module
Browse Information Message module
Information Representation module
Information Navigation module
Send & Save Information Message module
Information Messages Menu module
Information Provider
Organization Legacy Databases
Organization Applications

**Figure-9**

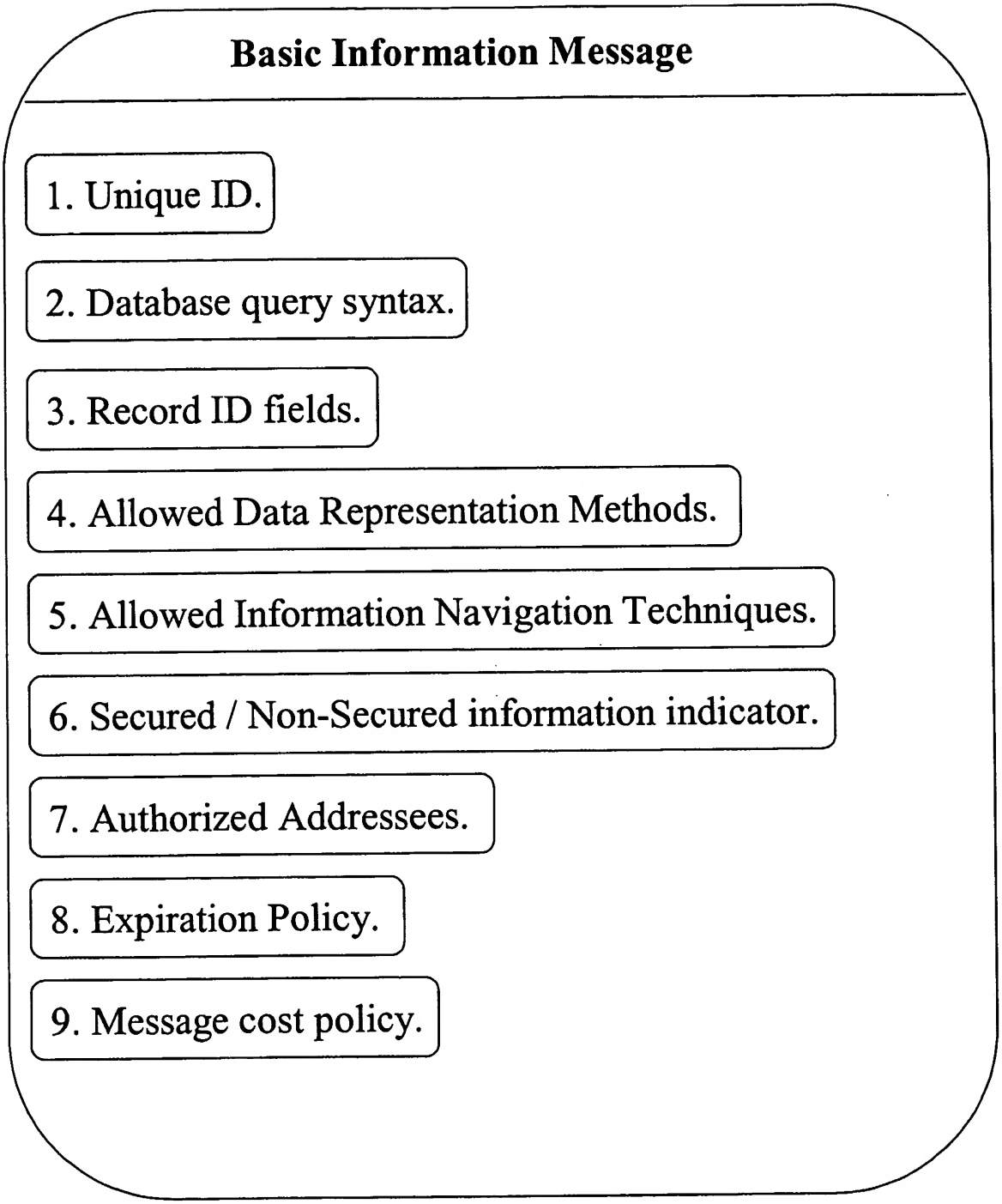

Basic Information Message
1. Unique ID.
2. Database query syntax.
3. Record ID fields.
4. Allowed Data Representation Methods.
5. Allowed Information Navigation Techniques.
6. Secured / Non-Secured information indicator.
7. Authorized Addressees.
8. Expiration Policy.
9. Message cost policy.



**Figure-10**

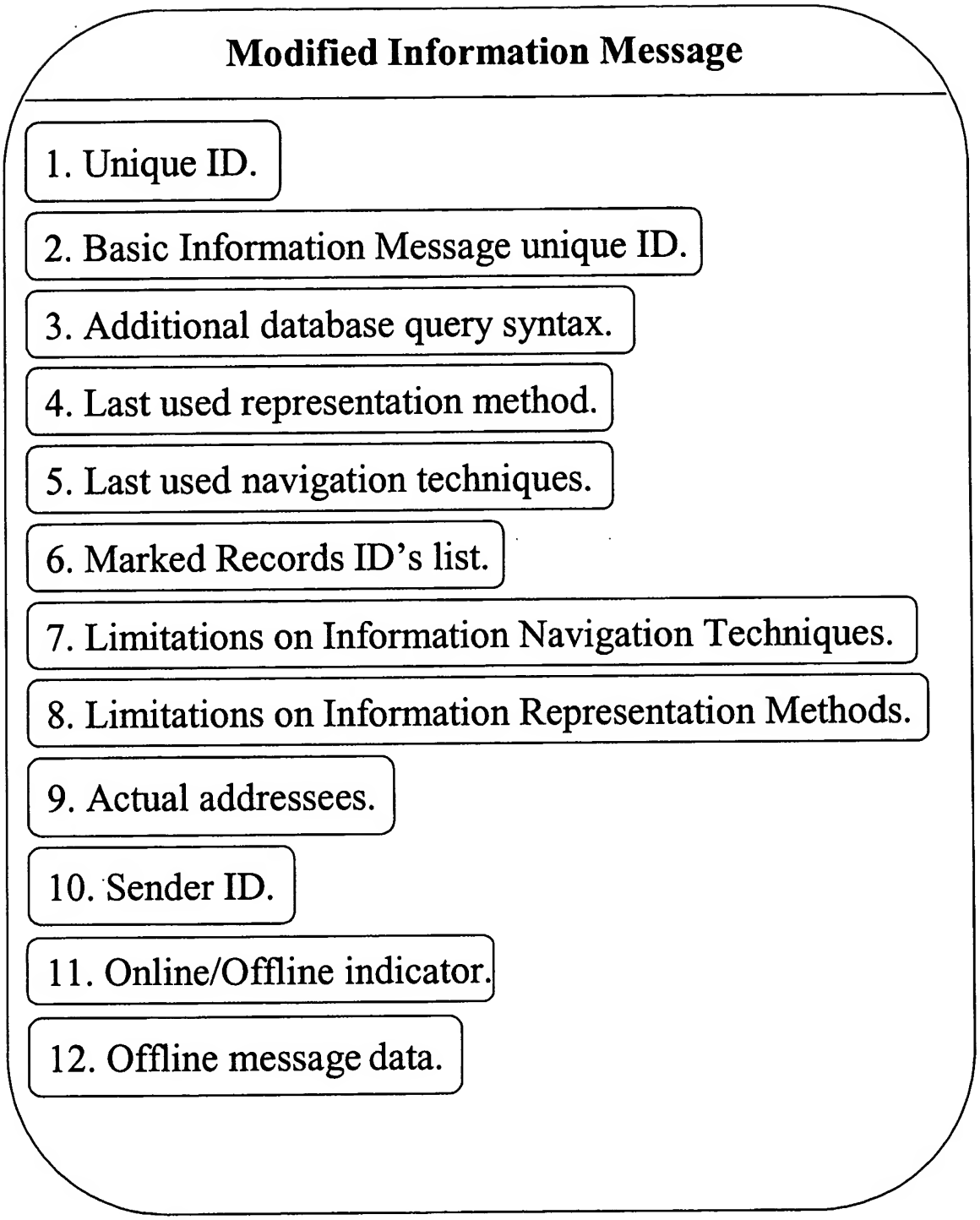

Modified Information Message
1. Unique ID.
2. Basic Information Message unique ID.
3. Additional database query syntax.
4. Last used representation method.
5. Last used navigation techniques.
6. Marked Records ID's list.
7. Limitations on Information Navigation Techniques.
8. Limitations on Information Representation Methods.
9. Actual addressees.
10. Sender ID.
11. Online/Offline indicator.
12. Offline message data.

**Figure-11**

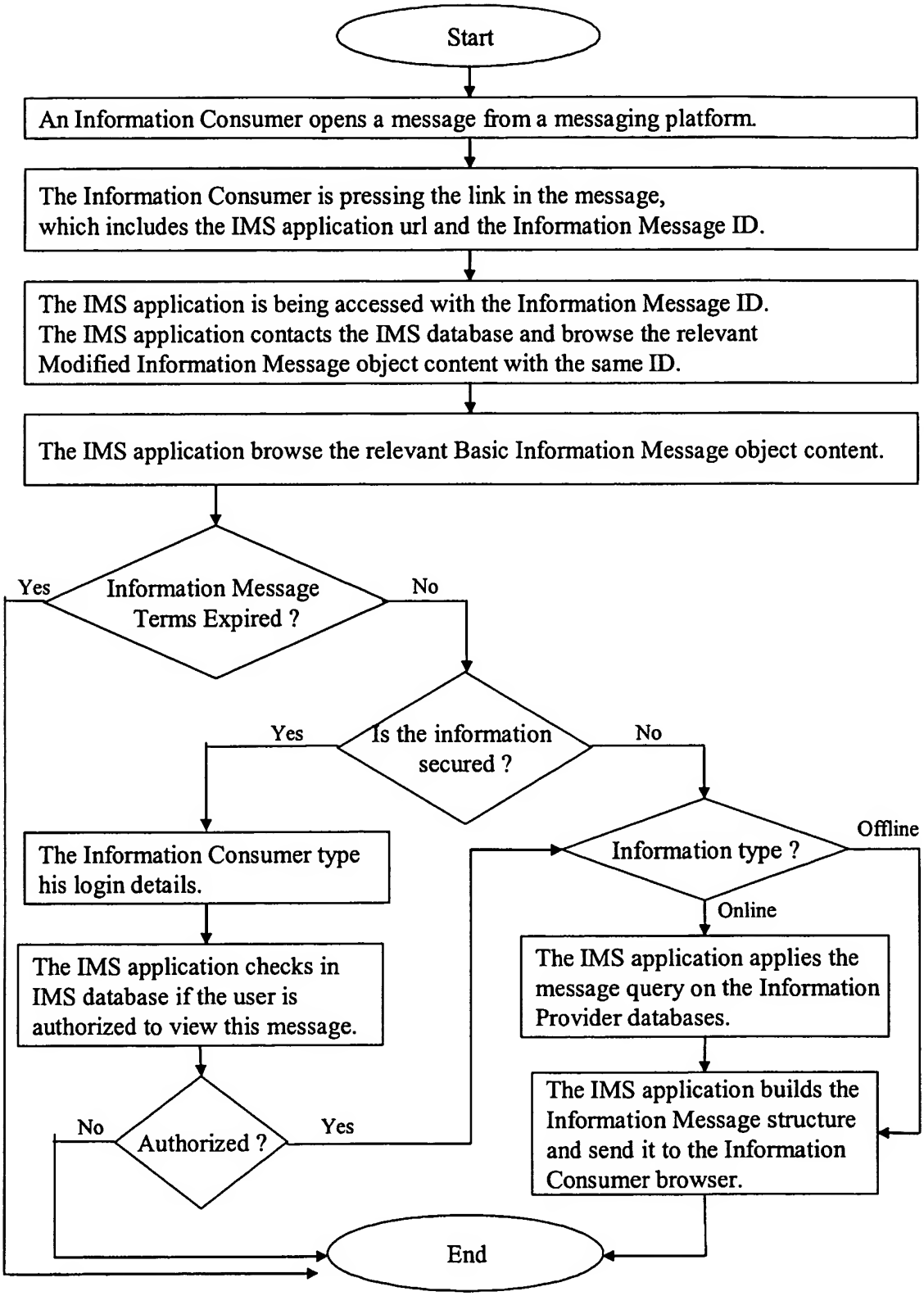

Start
An Information Consumer opens a message from a messaging platform.
The Information Consumer is pressing the link in the message, which includes the IMS application url and the Information Message ID.
The IMS application is being accessed with the Information Message ID. The IMS application contacts the IMS database and browse the relevant Modified Information Message object content with the same ID.
The IMS application browse the relevant Basic Information Message object content.
Information Message Terms Expired ?
Yes
No
Is the information secured ?
Yes
No
The Information Consumer type his login details.
The IMS application checks in IMS database if the user is authorized to view this message.
Authorized ?
No
Yes
Information type ?
Offline
Online
The IMS application applies the message query on the Information Provider databases.
The IMS application builds the Information Message structure and send it to the Information Consumer browser.
End



**Figure-12**

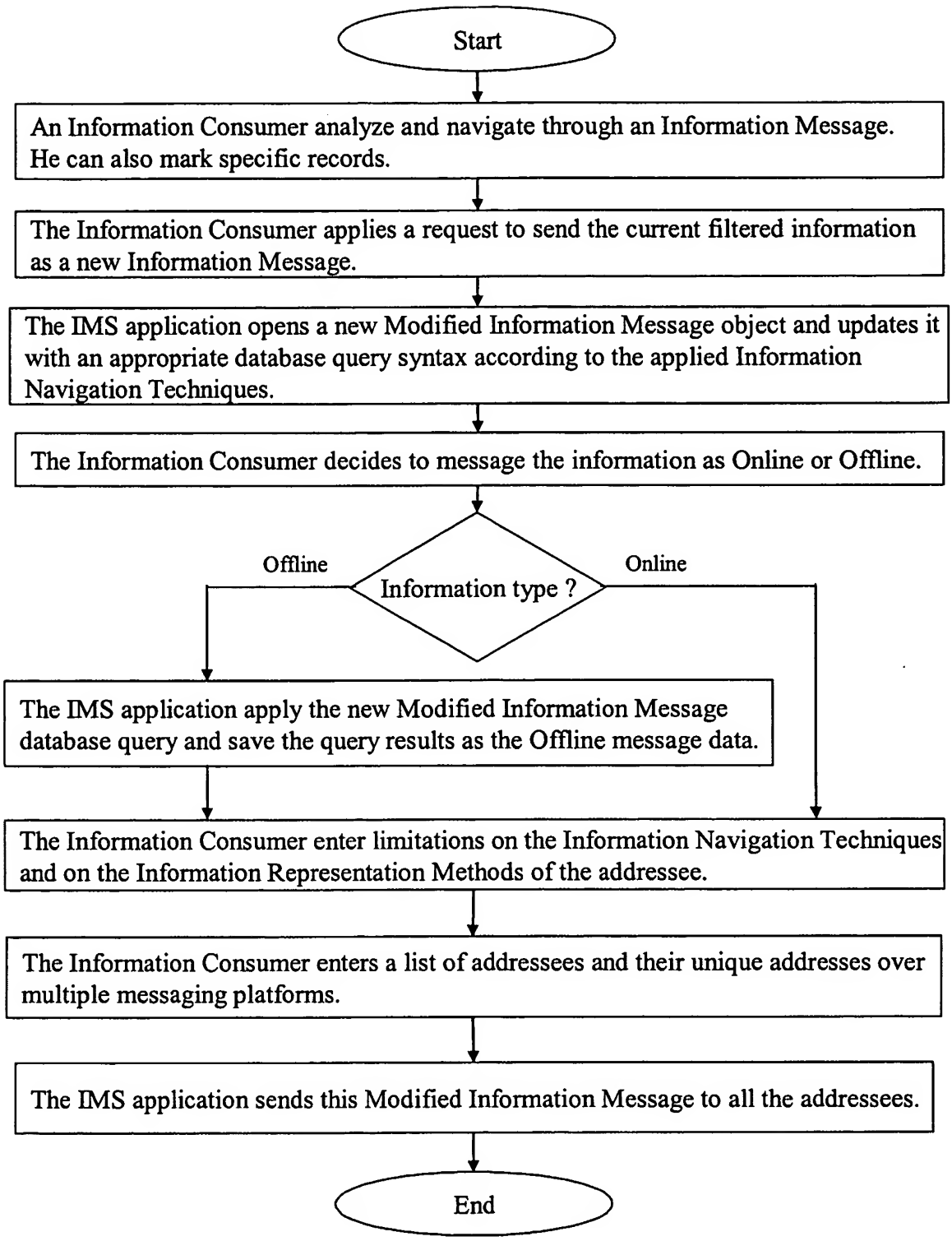

Start
An Information Consumer analyze and navigate through an Information Message. He can also mark specific records.
The Information Consumer applies a request to send the current filtered information as a new Information Message.
The IMS application opens a new Modified Information Message object and updates it with an appropriate database query syntax according to the applied Information Navigation Techniques.
The Information Consumer decides to message the information as Online or Offline.
Information type ?
Offline
Online
The IMS application apply the new Modified Information Message database query and save the query results as the Offline message data.
The Information Consumer enter limitations on the Information Navigation Techniques and on the Information Representation Methods of the addressee.
The Information Consumer enters a list of addressees and their unique addresses over multiple messaging platforms.
The IMS application sends this Modified Information Message to all the addressees.
End



**Figure-13**